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by
Arthur G. Horn

PULPWOOD PRODUCTION in LAKE STATES COUNTIES, 1959

LAKE STATES FOREST EXPERIMENT STATION • FOREST SERVICE
M. B. Dickerman, Director
U. S. DEPARTMENT OF AGRICULTURE

Foreword

Demands for more detailed information on the volume of forest products cut are steadily increasing. Such information is needed by industry and public forestry agencies as a basis for making revisions and adjustments in timber management plans, timber sale programs, and wood procurement policies. Periodically, forest survey figures show that the ratio between allowable cut and actual cut differs greatly among individual counties or groups of counties, and point to the need for making estimates of timber cut on a county or county-group basis. Cutting rates vary from year to year by area and, therefore, should be measured frequently to keep abreast of the ever-changing forest conditions. As a means of partially meeting these needs and to provide estimates for the Forest Survey and other activities, the Station periodically prepares summaries of the output of the various timber products. Reports of pulpwood output have been published each year since 1946.

The statistics presented here show the 1959 pulpwood cut by state, district, and county. This is the first report on the pulpwood cut by counties for a specific year in the Lake States region (see map opposite page 1). In addition to these county production figures, the 1959 regional pulpwood output and import figures have been compared with those of the previous year and 10 years ago.

This report is based on data obtained from the pulpmills drawing wood from the Lake States region. All of the 59 mills using Lake States wood furnished figures on wood receipts showing the origin of wood by state. County information, however, was not complete because five mills were not in position to furnish it in detail. In these cases state production was distributed to counties by using estimates obtained from local foresters and past production records.

Because of this weakness, the 1959 county pulpwood figures are subject to some reporting errors. Groups of counties, however, should have little error.

The help from the many mill officials who so kindly cooperated and furnished the basic information necessary for this report is gratefully acknowledged. Acknowledgement is also due to Ray Pfeifer, Forest Survey Coordinator, Michigan Conservation Department, for his assistance in collecting the basic data for the Michigan pulpmills.

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Research Forester

Station Paper No. 85
September, 1960

Lake States Forest Experiment Station[1/]
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1/ Maintained at St. Paul 1, Minn., in cooperation with the University of Minnesota.

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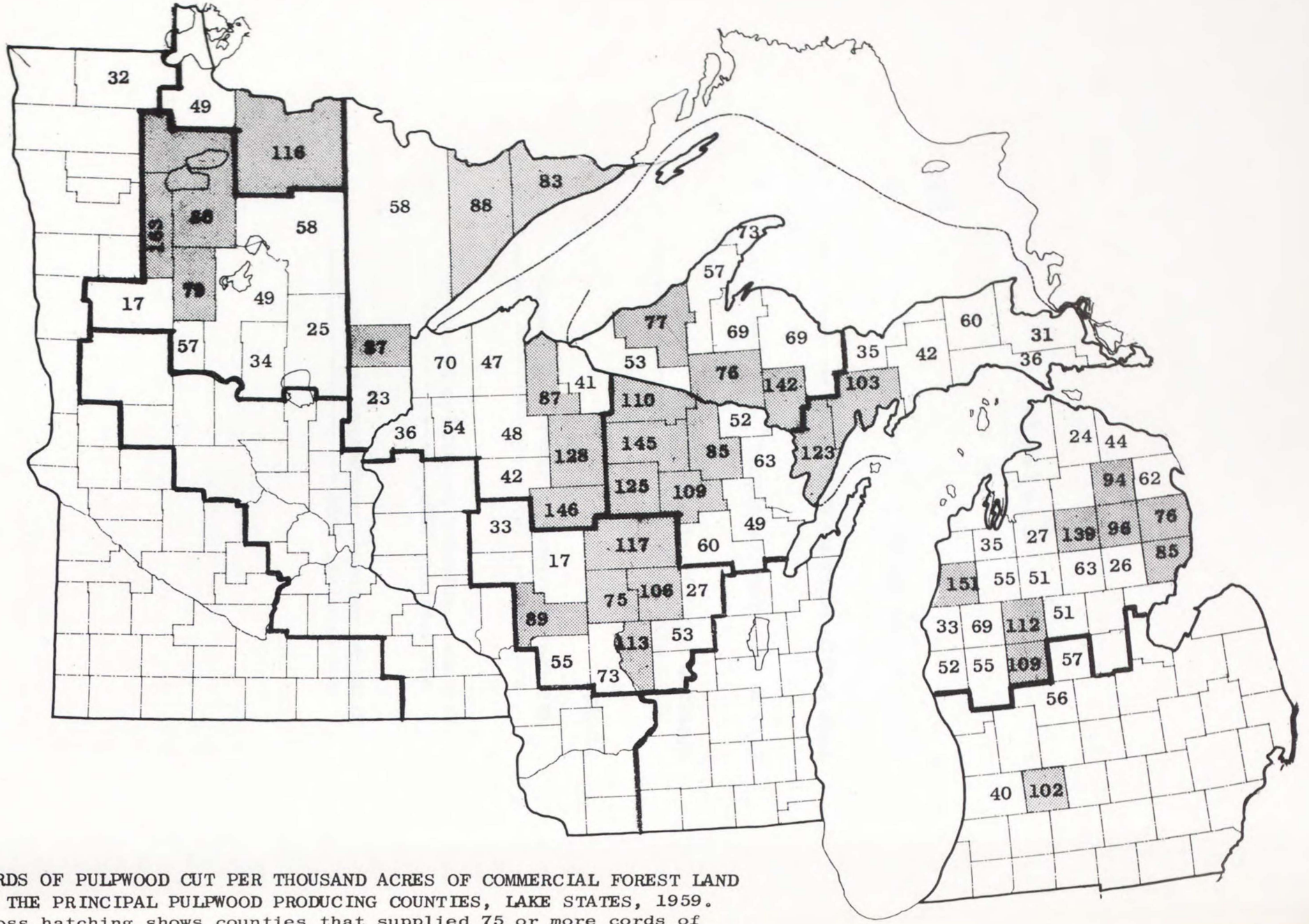


CORDS OF PULPWOOD CUT PER THOUSAND ACRES OF COMMERCIAL FOREST LAND IN THE PRINCIPAL PULPWOOD PRODUCING COUNTIES, LAKE STATES, 1959.

Cross hatching shows counties that supplied 75 or more cords of pulpwood per 1,000 acres of commercial forest land. The heavy lines delineate the boundaries of the Forest Survey Districts in each state.

1959 Pulpwood Briefs

LAKE STATES PULPWOOD PRODUCTION REACHED AN ALL-TIME HIGH IN 1959, WITH A RECORD CUT OF 3,019,000 CORDS.--Pulpwood logs and bolts accounted for 98 percent of the total amount produced, while chips from slabwood, veneer cores, and other mill residues made up the remaining 2 percent.

MICHIGAN TOOK OVER THE NO. 1 SPOT AS THE REGION'S LEADING PULPWOOD STATE.--Previously Minnesota had been a longtime leader in the region's pulpwood output. Michigan's pulpwood cut was reported at 1,052,000 cords, Minnesota's at 994,000 cords, and Wisconsin's at 973,000 cords.

ASPEN, PINE, AND MISCELLANEOUS HARDWOODS MADE UP LARGER PROPORTION OF PULPWOOD HARVEST.--Each of these species groups continued to represent a larger share of the total regional pulpwood output; spruce and balsam fir less; hemlock about the same as the previous year but considerably less than 10 years ago.

MICHIGAN AND WISCONSIN OPERATORS CUT MORE OF PULPWOOD FROM CENTRAL AND SOUTHERN COUNTIES.--In recent years larger proportions of aspen, jack pine, and miscellaneous hardwoods have been harvested from timber stands closer to the mills.

USE OF SAWMILL CHIPS INCREASES.--An increasing amount of chips, made from coarse mill residues, was purchased by Lake States pulpmills and Central States fiber mills. Procurement of chips almost tripled over that of the previous year.

PEELED WOOD IS BECOMING MORE PROMINENT IN THE PULPWOOD STOCK PILE.--In 1959 about 34 percent of the pulpwood received by Lake States mills was peeled, compared to only 26 percent 10 years ago.

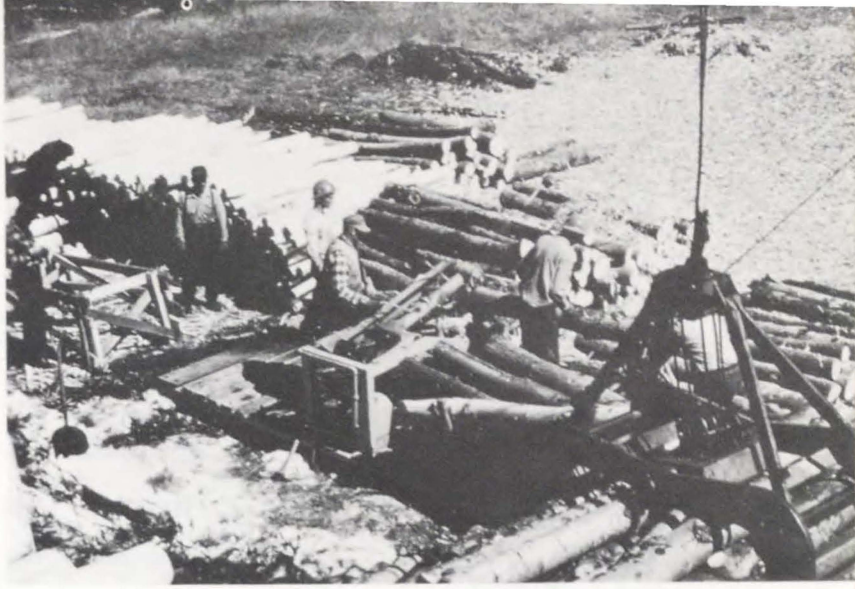
IMPORTS FROM CANADA WERE LESS THAN THOSE OF THE PREVIOUS YEAR AND 10 YEARS AGO.--Canadian imports to Wisconsin and Michigan mills declined, while wood imports to Minnesota pulpmills increased very slightly.

IMPORTS OF SPRUCE AND ASPEN DECLINED THE MOST.--Other species, such as balsam fir, remained unchanged; pine was up slightly. Ten years ago spruce made up nearly 70 percent of the total imported wood; in 1959 it dropped to 60 percent. Pine, on the other hand, climbed from 20 percent to 29 percent.

LAKE STATES PULPWOOD RECEIPTS TOTALED 3.4 MILLION CORDS IN 1959.--
Ten years ago 73 percent of the total pulpwood receipts were obtained from local sources; 27 percent were imported. The gap between the total pulpwood receipts and annual local pulpwood cut has been closing. In 1959, 88 percent of the total receipts were obtained from local cutters; only 12 percent were imported.

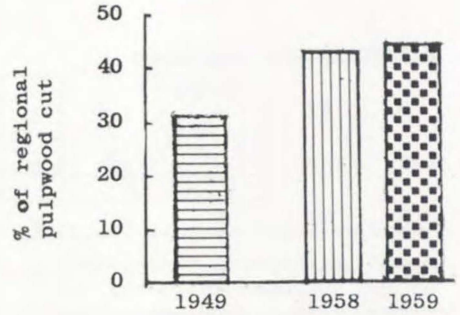
WISCONSIN MILLS LESS DEPENDENT ON MINNESOTA AND MICHIGAN WOOD.--
Ten years ago 45 percent more pulpwood was cut in Minnesota than actually was used by resident mills; in 1959 the amount was only 22 percent. In Michigan the amount cut in excess of resident mill consumption was 101 percent in 1949; it dropped to 50 percent in 1959. Wisconsin's annual pulpwood cut, on the other hand, has always been below mill receipts. In recent years Wisconsin mills have become less dependent on out-of-state sources for some species of pulpwood, while consumption in Minnesota and Michigan has risen. Station records show that 10 years ago Wisconsin's pulpwood cut was 70 percent short of resident mill consumption; in 1959 it was short by 48 percent. The use of even larger proportions of aspen, miscellaneous hardwoods, and mill residues may have the effect of extending this trend.

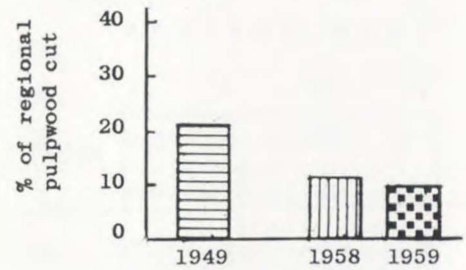
Lake States Pulpwood Production

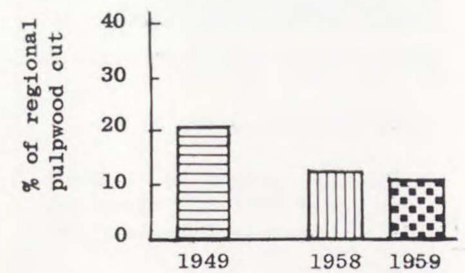


by species

Charts show the output of each species as a percentage of the total pulpwood cut in the region.

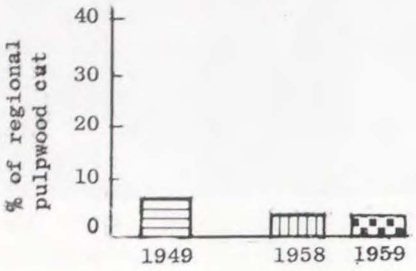




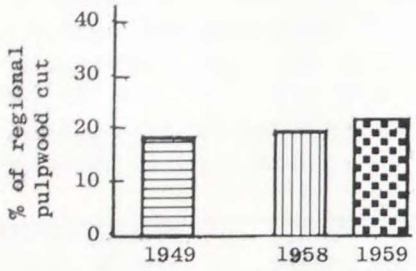


State	Output in M standard cords			Percent of all species output		
	1949	1958	1959	1949	1958	1959
ASPEN						
Minnesota	133	324	381	22	36	38
Wisconsin	185	368	431	43	44	44
Michigan	168	434	523	32	48	50
Total	486	1,126	1,335	31	43	44
BALSAM FIR						
Minnesota	117	116	130	19	13	13
Wisconsin	78	62	52	18	7	5
Michigan	124	115	109	24	13	10
Total	319	293	291	21	11	9
SPRUCE						
Minnesota	190	241	220	31	27	23
Wisconsin	33	23	21	8	3	2
Michigan	97	86	83	19	10	8
Total	320	350	324	21	13	11

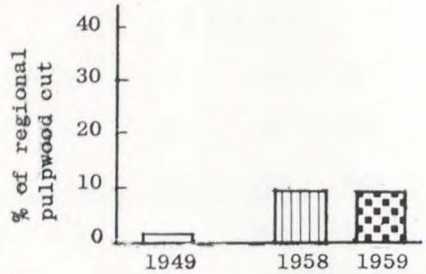
Lake States Pulpwood Production (Cont'd)



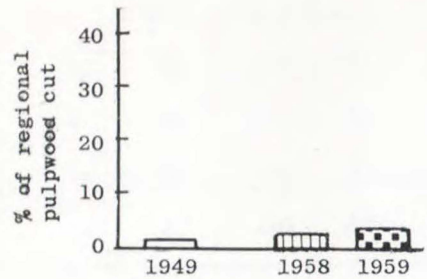
State	Output in M standard cords			Percent of all species output		
	1949	1958	1959	1949	1958	1959
HEMLOCK						
Minnesota	-	-	-	-	-	-
Wisconsin	47	55	49	11	7	5
Michigan	61	35	39	12	4	4
Total	108	90	88	7	3	3



PINE						
Minnesota	163	198	239	27	22	24
Wisconsin	72	148	187	17	18	19
Michigan	38	149	197	7	16	19
Total	273	495	623	18	19	21



MISCELLANEOUS HARDWOODS						
Minnesota	-	8	12	-	1	1
Wisconsin	-	147	159	-	18	17
Michigan	25	79	87	5	9	8
Total	25	234	258	1	9	9



OTHER SPECIES						
Minnesota	3	16	12	1	1	1
Wisconsin	13	24	73	3	3	8
Michigan	6	2	15	1	-	1
Total	22	42	100	1	2	3

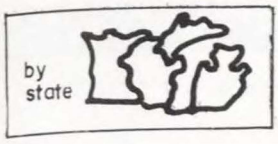
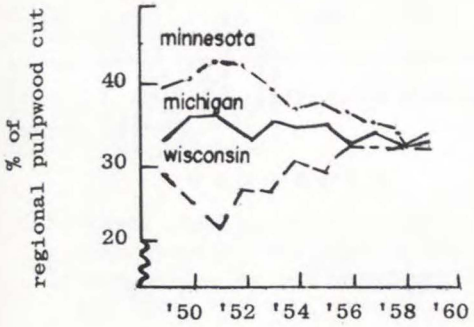
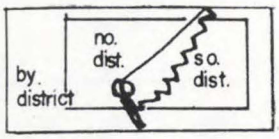


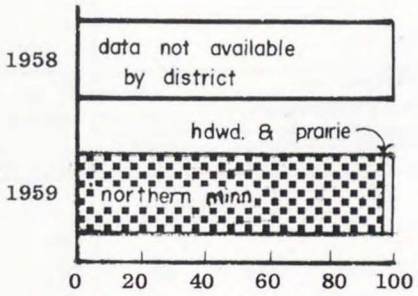
Chart shows the output of each state as a percentage of the total pulpwood cut in the region.



State	Output in M standard cords			Percent of regional output		
	1949	1958	1959	1949	1958	1959
			ALL SPECIES			
Minnesota	606	903	994	39	34	33
Wisconsin	428	827	972	28	32	32
Michigan	519	900	1,053	33	34	35
Total	1,553	2,630	3,019	100	100	100



Cumulative percentage charts of the total pulpwood cut in the state by forest survey district.

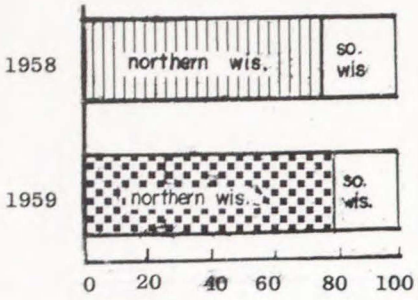


% of state pulpwood cut.

Northern Minnesota includes Northeast, Central Pine, and Rainy River Districts.

Forest survey district	Output in M standard cords			Percent of state output		
	1949	1958	1959	1949	1958	1959
			MINNESOTA			
Northeast	-	-	392	-	-	40
Central Pine	-	-	381	-	-	38
Rainy River	-	-	203	-	-	20
Hardwood and Prairie	-	-	18	-	-	2
Total	606	903	994	100	100	100

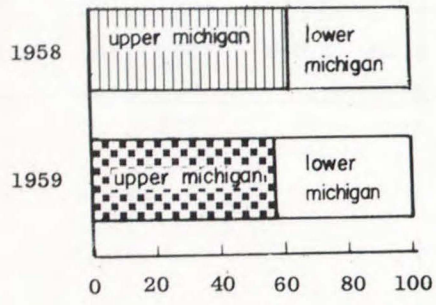
1949 and 1958 data not available by district.



Northern Wisconsin includes Northeast and Northwest Districts.

Forest survey district	Output in M standard cords			Percent of state output		
	1949	1958	1959	1949	1958	1959
			W I S C O N S I N			
Northeast	-	347	376	-	42	40
Northwest	-	289	364	-	35	39
Central	-	185	189	-	22	20
Southern	-	6	3	-	1	1
Total	428	827	932	100	100	100

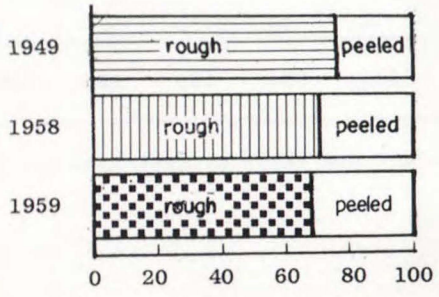
1949 data not available by district.



			M I C H I G A N			
E½ Upper Mich.	- (557		254	- (62		24
W½ Upper Mich.	-		353	-		34
N½ Lower Mich.	-	310	409	-	34	39
S½ Lower Mich.	-	33	32	-	4	3
Total	519	900	1,048	100	100	100

1949 data not available by district.

Cumulative percentage chart of the total pulpwood cut in the region by rough and peeled wood.

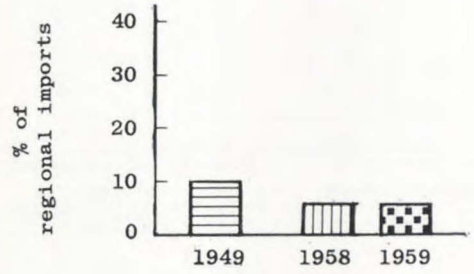


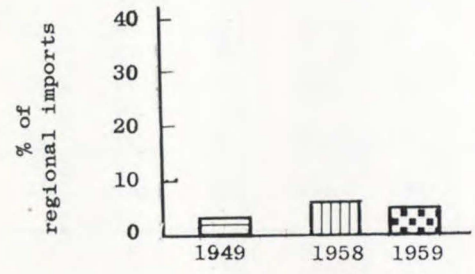
State	Output of peeled pulpwood M standard cords			Percent of total output		
	1949	1958	1959	1949	1958	1959
			A L L S P E C I E S			
Minnesota	109	235	288	18	26	29
Wisconsin	102	248	323	24	30	35
Michigan	166	270	325	32	30	31
Total	377	753	936	24	29	31

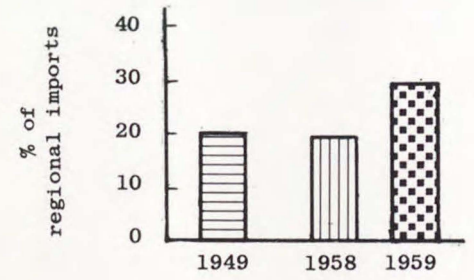
Lake States Pulpwood Imports

by species

Charts show the imports for each species from outside the Lake States as percentage of the total regional imports.

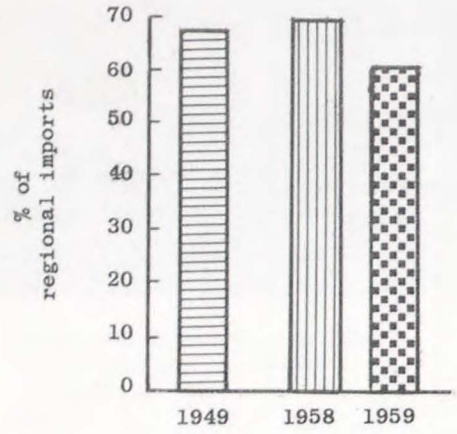






State	Imports in M standard cords			Percent of total pulpwood imports		
	1949	1958	1959	1949	1958	1959
ASPEN						
Minnesota	19	12	16	31	20	23
Wisconsin	22	4	-	6	1	-
Michigan	19	13	8	15	15	9
Total	60	29	24	10	6	6
BALSAM FIR						
Minnesota	*	*	*	*	*	*
Wisconsin	3	1	*	1	*	*
Michigan	15	30	23	12	36	27
Total	18	31	23	3	6	5
PINE						
Minnesota	29	37	44	48	63	63
Wisconsin	59	55	81	15	16	30
Michigan	28	-	-	22	-	-
Total	116	92	125	20	19	29

*Less than 500 cords.



State	Imports in M standard cords			Percent of total pulpwood imports		
	1949	1958	1959	1949	1958	1959
			S P R U C E			
Minnesota	13	10	10	21	17	14
Wisconsin	309	286	188	78	83	70
Michigan	64	41	54	51	49	64
Total	386	337	252	67	69	60

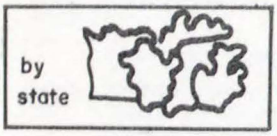
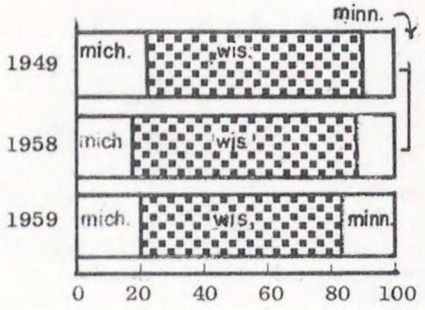
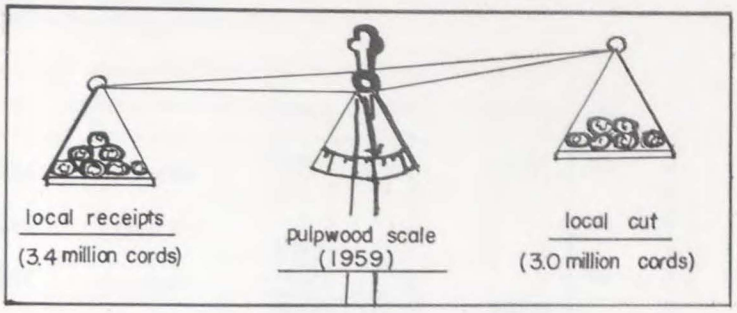


Chart shows the imports from outside the region by each state as a percentage of total regional imports.

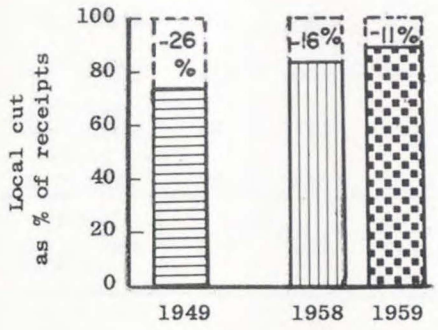


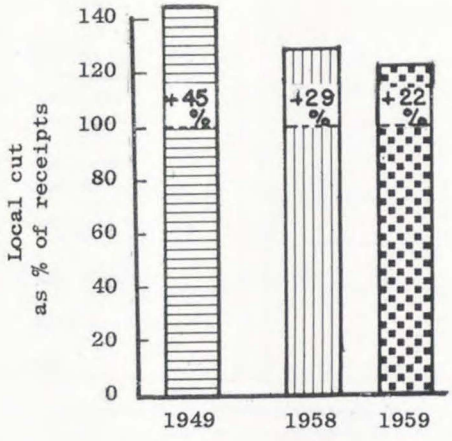
State	Imports in M standard cords			Percent of regional pulpwood imports		
	1949	1958	1959	1949	1958	1959
			A L L I M P O R T S			
Minnesota	61	59	70	10	12	17
Wisconsin	393	346	269	68	71	63
Michigan	126	84	85	22	17	20
Total	580	489	424	100	100	100

Pulpwood Receipts By Lake States Mills Versus Local Cut



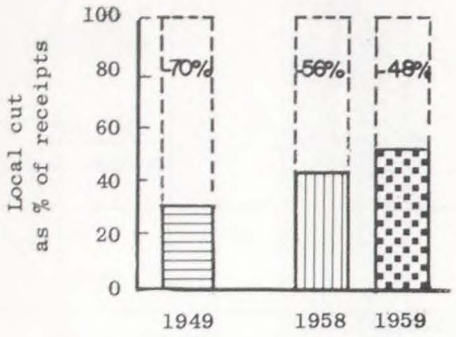
Charts show local cut as a percentage of receipts for region and for each state.



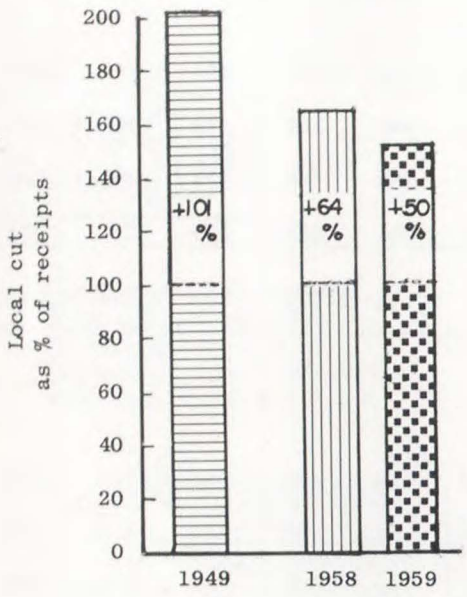


Selected species	Local mill receipts			The local cut		
	1949	1958	1959	1949	1958	1959
LAKE STATES						
Aspen	516	1,155	1,360	486	1,126	1,335
Balsam	337	325	308	319	293	291
Pine	390	586	748	273	495	623
Spruce	704	684	567	320	351	324
All species	2,102	3,114	3,379	1,553	2,630	3,016
MINNESOTA						
Aspen	144	338	405	133	324	381
Balsam	48	55	69	117	116	130
Pine	111	161	195	163	198	239
Spruce	114	133	128	190	242	220
All species	417	699	813	606	903	994

Pulpwood Receipts (Cont'd)



Selected species	Local mill receipts			The local cut		
	1949	1958	1959	1949	1958	1959
			W I S C O N S I N			
Aspen	332	583	619	185	368	431
Balsam	244	200	169	78	62	52
Pine	227	318	436	72	148	187
Spruce	502	478	345	33	23	21
All species	1,426	1,866	1,868	428	827	973



			M I C H I G A N			
Aspen	40	234	336	168	434	523
Balsam	45	70	70	124	115	109
Pine	52	107	117	38	149	197
Spruce	88	73	94	97	86	83
All species	258	549	698	519	900	1,049

MINNESOTA

Pulpwood production by county and species, 1959

(Thousand standard cords, rough wood basis)

District and county 1/	All species	Aspen	Balsam	Birch	Hemlock	Pine	Spruce	Tamarack	Miscellaneous hardwoods
NORTHEASTERN:									
Carleton	32	20	2	1	-	6	3	-	-
Cook	60	-	15	-	-	9	36	-	-
Lake	100	10	11	*	-	36	43	*	-
Pine	12	8	1	-	-	3	*	-	-
St. Louis	188	81	30	*	-	48	26	2	1
Total	392	119	59	1	-	102	108	2	1
CENTRAL PINE:									
Aitkin	22	14	2	*	-	1	4	1	-
Becker	6	3	*	-	-	2	1	-	-
Beltrami	98	49	12	-	-	24	11	2	*
Cass	50	18	5	-	-	21	5	1	-
Clearwater	62	38	2	-	-	21	1	-	-
Crow Wing	16	3	1	-	-	11	1	-	-
Hubbard	35	14	*	-	-	20	1	*	-
Itasca	84	30	18	*	-	13	21	2	*
Wadena	8	-	-	-	-	8	-	-	-
Total	381	169	40	*	-	121	45	6	*
RAINY RIVER:									
Koochiching	176	77	29	-	-	4	52	3	11
Lake of the Woods	27	9	1	-	-	4	13	*	*
Total	203	86	30	-	-	8	65	3	11
HARDWOOD:									
Kanabec	*	*	-	-	-	-	-	-	-
Mille Lacs	*	*	-	-	-	-	-	-	-
Morrison	2	-	1	-	-	-	1	-	-
Otter Tail	*	*	*	-	-	*	-	-	-
Todd	*	*	-	-	-	*	-	-	-
Total	2	*	1	-	-	*	1	-	-
PRAIRIE:									
Mahnomen	*	-	*	-	-	-	*	-	-
Marshall	*	*	-	-	-	-	-	-	-
Pennington	2	2	-	-	-	-	-	-	-
Polk	2	2	-	-	-	-	-	-	-
Red Lake	*	*	-	-	-	-	-	-	-
Roseau	12	3	-	-	-	8	1	-	*
Total	16	7	*	-	-	8	1	-	*
STATE TOTAL	994	381	130	1	-	239	220	11	12
Mill residue	-	-	-	-	-	-	-	-	-
TOTAL	994	381	130	1	-	239	220	11	12

1/ Includes only those counties that supplied pulpwood in 1959.
Mill residues included in State total only.

* Less than 500 cords.

WISCONSIN

Pulpwood production by county and species, 1959

(Thousand standard cords, rough wood basis)

District and county 1/	All species	Aspen	Balsam	Birch	Hemlock	Pine	Spruce	Tamarack	Miscellaneous hardwoods
NORTHEASTERN:									
Florence	14	8	3	*	2	*	1	-	*
Forest	48	31	7	*	2	3	2	1	2
Langlade	42	20	3	1	3	1	1	1	12
Lincoln	50	22	3	2	3	14	1	*	5
Marinette	41	23	4	-	1	6	3	-	4
Oconto	21	12	1	-	*	2	*	-	6
Oneida	84	46	4	1	4	13	3	1	12
Shawano	24	15	1	*	1	1	1	-	5
Vilas	52	29	5	*	2	7	1	1	7
Total	376	206	31	4	18	47	13	4	53
NORTHWESTERN:									
Ashland	48	23	11	4	4	-	2	*	4
Bayfield	37	22	2	1	9	1	1	-	1
Burnette	13	1	*	-	-	12	*	*	-
Douglas	48	24	*	*	-	22	1	1	-
Iron	17	7	2	2	5	*	*	1	*
Price	82	39	3	11	4	-	3	*	22
Rusk	15	6	-	-	1	-	-	-	8
Sawyer	32	17	1	4	2	6	*	-	2
Taylor	52	29	1	*	1	-	*	-	21
Washburn	20	4	*	*	*	15	*	1	*
Total	364	172	20	22	26	56	7	3	58
CENTRAL:									
Adams	28	3	-	-	-	21	-	-	4
Chippewa	8	8	-	-	*	-	-	-	*
Clark	5	3	-	-	-	*	-	-	2
Eau Claire	*	*	-	-	-	-	-	-	-
Jackson	29	2	-	-	-	25	*	-	2
Juneau	21	3	-	-	-	16	-	-	2
Marathon	42	18	1	*	5	*	1	-	17
Marquette	1	*	-	-	-	*	-	-	1
Monroe	14	-	-	*	-	11	*	-	3
Portage	16	5	*	-	*	5	*	-	6
Waupaca	4	4	*	-	*	-	*	-	*
Waushara	7	1	-	-	-	6	-	-	*
Wood	14	4	-	*	*	-	*	-	10
Total	189	51	1	*	5	84	1	-	47
SOUTHWESTERN:									
Polk	1	1	-	-	-	-	-	-	-
Total	1	1	-	-	-	-	-	-	-
SOUTHEASTERN:									
Brown	*	*	-	-	-	-	-	-	*
Calumet	*	*	-	-	-	-	-	-	*
Columbia	1	-	-	-	-	-	-	-	1
Door	-	*	-	-	-	-	-	-	*
Outagamie	1	1	*	-	-	-	-	-	-
Total	2	1	*	-	-	-	-	-	1
STATE TOTAL	932	431	52	26	49	187	21	7	159
Mill residue	40	-	-	-	-	-	-	-	-
TOTAL	972	431	52	26	49	187	21	7	159

1/ Includes only those counties that supplied pulpwood in 1959.
Mill residues included in State total only.

* Less than 500 cords.

MICHIGAN

Pulpwood production by county and species, 1959

(Thousand standard cords, rough wood basis)

District and county[1/]	All species	Aspen	Balsam	Birch	Hemlock	Pine	Spruce	Tamarack	Miscellaneous hardwoods
E½ UPPER MICH.:									
Alger	19	2	7	-	-	6	4	-	-
Chippewa	26	6	5	-	-	10	5	-	*
Delta	66	32	18	*	*	6	9	*	1
Luce	31	3	4	-	*	18	5	-	1
Mackinac	21	5	4	-	-	8	4	-	*
Menominee	63	44	8	2	*	1	6	-	2
Schoolcraft	28	2	11	1	*	10	4	-	*
Total	254	94	57	3	*	59	37	*	4
W½ UPPER MICH.:									
Baraga	37	22	5	-	2	1	6	-	1
Dickinson	61	40	9	*	1	2	6	1	2
Gogebic	31	9	2	*	16	-	1	-	3
Houghton	30	9	3	*	10	*	2	*	6
Iron	51	30	7	*	1	2	4	1	6
Keweenaw	14	-	8	-	-	-	6	-	-
Marquette	77	19	10	1	*	28	12	1	6
Ontonagon	52	13	1	*	9	-	2	-	27
Total	353	142	45	1	39	33	39	3	51
N½ LOWER MICH.:									
Alcona	28	21	2	-	-	1	1	-	3
Alpena	16	11	1	-	-	1	1	-	2
Antrim	*	*	-	-	-	-	-	-	-
Arenac	1	1	-	-	-	-	-	-	-
Benzie	*	*	-	-	-	*	-	-	*
Charlevoix	*	*	-	-	-	*	-	-	*
Cheboygan	9	5	1	-	-	2	1	-	*
Clare	12	12	-	-	-	*	-	-	*
Crawford	44	11	*	-	-	29	1	-	3
Emmet	*	*	-	-	-	-	-	-	*
Gladwin	1	1	-	-	-	*	-	-	*
Grand Traverse	6	4	-	-	-	1	-	-	1
Iosco	20	7	*	-	-	12	-	-	1
Kalkaska	8	3	*	-	-	5	*	-	*
Lake	22	14	-	-	-	7	-	-	1
Manistee	38	32	-	-	-	2	-	-	4
Mason	6	5	-	-	-	1	-	-	*
Mecosta	18	18	-	-	-	-	-	-	*
Midland	1	1	-	-	-	-	-	-	-
Missaukee	12	9	-	-	-	2	-	-	1
Montmorency	29	19	1	-	-	4	1	-	4
Newago	19	18	-	-	-	1	-	-	*
Oceana	9	8	-	-	-	1	-	-	-
Ogemaw	7	2	-	-	-	5	-	-	*
Osceola	22	20	-	-	-	*	-	-	2
Oscoda	32	8	*	-	-	22	1	-	1
Otsego	2	1	*	-	-	1	*	-	*
Presque Isle	14	7	2	-	-	2	1	-	2
Roscommon	19	13	*	-	-	4	*	-	2
Wexford	14	12	-	-	-	1	-	-	1
Total	409	263	7	-	-	104	7	-	28
S½ LOWER MICH.:									
Allegan	5	3	-	-	-	-	-	-	2
Barry	5	4	-	-	-	-	-	-	1
Berrien	*	*	-	-	-	-	-	-	-
Calhoun	*	*	-	-	-	-	-	-	-
Ionia	*	*	-	-	-	-	-	-	*
Isabella	6	6	-	-	-	-	-	-	-
Jackson	1	-	-	-	-	-	-	-	1
Kalamazoo	1	-	-	-	-	-	-	-	1
Kent	1	1	-	-	-	-	-	-	-
Lapeer	2	2	-	-	-	-	-	-	*
Montcalm	6	6	-	-	-	-	-	-	-
Muskegon	1	*	-	-	-	1	-	-	-
Ottawa	*	*	-	-	-	*	-	-	-
St. Clair	*	*	-	-	-	-	-	-	-
Sanilac	1	1	-	-	-	-	-	-	-
Tuscola	*	*	-	-	-	-	-	-	-
Van Buren	3	1	-	-	-	-	-	-	2
Total	32	24	-	-	-	1	-	-	7
STATE TOTAL	1,048	523	109	4	39	197	83	3	90
Mill residue	5	-	-	-	-	-	-	-	-
TOTAL	1,053	523	109	4	39	197	83	3	90

1/ Includes only those counties that supplied pulpwood in 1959.
Mill residues included in State total only.

* Less than 500 cords.

SOME RECENT STATION PAPERS
Lake States Forest Experiment Station

Forest Tree Improvement Research in the Lake States: A Survey by the Lake States Forest Tree Improvement Committee, by Paul O. Rudolf. Sta. Paper 74, 56 pp. 1959.

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Effects of Forest Cover on Soil Freezing in Northern Lower Michigan, by W. D. Striffler. Sta. Paper 76, 16 pp., illus. 1959.

Influence of Ownership on Forestry in Small Woodlands, by Charles F. Sutherland, Jr., and Carl H. Tubbs. Sta. Paper 77, 21 pp., illus. 1959.

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The Forest Insect and Disease Situation, Lake States, 1959, by Donald C. Schmiege and Gerald W. Anderson. Sta. Paper 79, 18 pp., illus. 1960.

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European Pine Shoot Moth Damage as Related to Red Pine Growth, by H. J. Heikkenen and W. E. Miller. Sta. Paper 83, 12 pp., illus. 1960.

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